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IN THE CLAIMS:

The status and content of each claim follows.

1-14. (cancelled)

15. (currently amended) A dopant solution application apparatus,
comprising:

a supply of a dopant solution comprising a dopant that controls a property of a
substrate;

a frame; and

a plurality of fluid ejection devices disposed on said frame wherein said fluid
ejection devices ~~are configured to~~ variably eject ~~[[a]]~~ said dopant solution onto a said
substrate according to a desired profile of said property throughout said substrate.

16. (original) The dopant solution application apparatus of claim 15,
further comprising a substrate advancement mechanism coupled to said frame, said
substrate advancement mechanism being configured to advance said substrate in an
advancement direction.

17. (currently amended) The dopant solution application apparatus of
~~claim 16~~ claim 15, further comprising a supply of a second dopant solution
comprising a second dopant that controls a property of said substrate, wherein said
fluid ejection devices comprise an array of fluid ejection devices that ~~configured to~~
~~variably eject said at least one dopant solution, wherein each fluid ejection device is~~

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configured to variably eject said dopant solution and said second dopant solution according to a desired profile of at least one property of said substrate throughout said substrate, wherein said at least one property is controlled by at least one of said dopants at least one dopant solution.

18. (original) The dopant solution application apparatus of claim 15, wherein said fluid ejection devices comprise inkjets.

19. (original) The dopant solution application apparatus of claim 18, wherein said inkjets are arranged in an array that spans a width of said substrate.

20. (withdrawn) The dopant solution application apparatus of claim 15, further comprising a second plurality of fluid ejection devices disposed on said frame wherein said second plurality of fluid ejection devices is configured to variably apply a second doping solution.

21. (withdrawn) The dopant solution application apparatus of claim 20, wherein said pluralities of fluid ejection devices each comprise an array of fluid ejection devices configured to variably eject one of said dopant solutions.

22. (withdrawn) The dopant solution application apparatus of claim 21, wherein said fluid ejection devices comprise inkjets.

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23. (withdrawn) The dopant solution application apparatus of claim 22, wherein said arrays comprise substrate-wide arrays.

24. (withdrawn) The dopant solution application apparatus of claim 15, further comprising;

a ceramic formation mechanism associated with said frame.

25. (withdrawn) The dopant solution application apparatus of claim 24, wherein said ceramic formation mechanism comprises a tape casting mechanism.

26. (withdrawn) The dopant solution application apparatus of claim 24, wherein said ceramic formation mechanism comprises a screen printing mechanism.

27. (withdrawn) The dopant solution application apparatus of claim 24, wherein said ceramic formation mechanism comprises a doctor blade mechanism.

28. (withdrawn) The dopant solution application apparatus of claim 24, further comprising a substrate advancement mechanism coupled to said frame and configured to advance said substrate in an advancement direction.

29. (withdrawn) The dopant solution application apparatus of claim 28, wherein said fluid ejection devices comprise:

an array configured to variably eject said at least one dopant solution; and

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wherein each fluid ejection device is further configured to variably eject said at least one dopant solution with respect to said advancement direction.

30. (withdrawn) The dopant solution application apparatus of claim 29, wherein said fluid ejection devices comprise inkjets.

31. (withdrawn) The dopant solution application apparatus of claim 30, wherein said array comprises a substrate-wide array of inkjets.

32. (withdrawn/currently amended) The dopant solution application apparatus of ~~claim 33~~ claim 31, further comprising a second plurality of fluid ejection devices disposed along said frame wherein said second plurality of fluid ejection devices is configured to variably apply a second doping solution.

33. (withdrawn) The dopant solution application apparatus of claim 32, wherein said fluid ejection devices comprise inkjets.

34. (withdrawn) The dopant solution application apparatus of claim 33, wherein said arrays comprise substrate-wide arrays.

35-58. (cancelled)

59. (currently amended) The dopant solution application apparatus of claim 15,

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wherein said substrate has a first axis; and

wherein said plurality of fluid ejection devices ~~are configured to vary a~~
concentration of said dopant along said first axis of said substrate.

60. (currently amended) The dopant solution application apparatus of
claim 59,

wherein said plurality of fluid ejection devices ~~are further configured to vary~~
said concentration of said dopant ~~also varies~~ in a direction at an angle to said first
axis.

61. (currently amended) The dopant solution application apparatus of
claim 59,

wherein said plurality of fluid ejection devices ~~are further configured to also~~
apply a second dopant to said substrate, wherein a concentration of said second dopant
varies along a second axis of said substrate.

62. (new) The dopant solution application apparatus of claim 15, wherein
said dopant is ionic.

63. (new) The dopant solution application apparatus of claim 15, wherein
said property comprises ionic conductivity.

64. (new) The dopant solution application apparatus of claim 15, wherein
said property comprises catalytic activity.

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65. (new) The dopant solution application apparatus of claim 15, wherein said substrate is ceramic.

66. (new) The dopant solution application apparatus of claim 15, wherein said substrate comprises a fuel cell electrode.

67. (new) The dopant solution application apparatus of claim 15, wherein said substrate comprises a fuel cell cathode.

68. (new) The dopant solution application apparatus of claim 15, wherein said profile inversely matches a pressure of oxidant entering a fuel cell oxidant chamber.

69. (new) The dopant solution application apparatus of claim 15, further comprising a substrate processing device outputting a said substrate through said frame.

70. (new) The dopant solution application apparatus of claim 15, further comprising a substrate processing device receiving a said substrate from said plurality of fluid ejection devices.

71. (new) The dopant solution application apparatus of claim 15, wherein said property comprises at least one of electrical conductivity, ion conductivity,

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thermal conductivity, thermal expansion, strength, flexibility, catalytic activity,
catalytic selectivity, porosity, pore size distribution, and density.